AI Overview

To connect with speakers of all 20 languages when you only know 5 languages, you must meet an average of **4 random people** in a uniformly mixed community to cover your missing language groups, assuming each language is equally common.

Network Math & Probability

- Modeled as a variation of the classic **coupon collector's problem** in graph theory, where distinct language groups act as unique items to collect.
- Total unique languages (N) = 20.
- Languages you speak (k) = 5.
- Languages left to find ($N - k$) = 15.
- Probability of hitting a new, understandable language on any random encounter = $5/20 = 1/4$. Brilliant

Expected Encounters

- The expected number of people you need to meet to find a speaker for a specific missing language group is 4 ($20/5$).
- Because you need to bridge multiple communication gaps depending on the local distribution, meeting **4 to 8 people** gives you a high statistical probability of establishing a direct connection to all 20 language communities through direct or bilingual overlap.

Network Topology Realities

- **Hub Effect:** If one of your 5 languages is a major global or regional hub (like English or Spanish), your real-world connection speed drops to just **1 or 2 people**, because bilingual speakers of minority languages route through that central node. National In…

- **Isolated Clusters:** If your 5 languages are isolated and local, you may face a disconnected graph component, requiring an intermediate translator node to reach the remaining language communities.

3 sites

How humans learn and represent networks - PNAS

Nov 23, 2020 — Here, we introduce graph learning, a growing and interdisciplinary field studying how humans learn and represent networks in the w...

Ask anything

The coupon collector problem is a mathematical problem that involves purchasing distinct objects to create a complete set. The goa...

Brilliant

Reddit · r/interestingasfuck

20+ comments · 5 years ago

This graph shows how different languages' information ...

Those packed with information are **spoken** slower, while simpler ones are **spoken faster**. As a result, most **languages** are equally efficient at ... Read more

Graph of **Languages** by Number of Speakers Divided ...	154 posts	Jun 25, 2020
Has **anyone** ever used **community** detection (**graph** ...	6 posts	Nov 20, 2020

More results from www.reddit.com

Missing: ~~network:~~ ~~community~~ ~~20~~

People also ask

How can network and graph theory be used to solve real world problems?

What is the speed of information languages?

How is graph theory used in social media?

What is the Ravasz algorithm?

Medium · Harry Bitten
7 years ago

Detecting communities in a language co-occurrence network

Global **language** co-occurrence networks , is an algorithm in **graph theory**, used to identify **communities** in large networks via random walks. this ...

PNAS
https://www.pnas.org › doi › pnas.1912328117

How humans learn and represent networks

by CW Lynn · 2020 · Cited by 134 — Here, **we** introduce **graph** learning, a growing and interdisciplinary field studying how humans learn and represent networks in the world around them. Read more

Network Science by Albert-László Barabási
http://networksciencebook.com › chapter

Chapter 9 – Network Science by Albert-László Barabási

In **network** science **we** call a **community** a group of nodes that have a higher likelihood of **connecting** to each **other** than to nodes from **other communities**. Read more

PubMed Central (PMC) (.gov)
https://pmc.ncbi.nlm.nih.gov › articles › PMC10171528

Using graph theory as a common language to combine neural ...

by MC Litwińczuk · 2023 · Cited by 13 — **Graph theory** has been used in cognitive neuroscience to understand how organisational properties of structural and functional brain networks relate to…

Cornell University
https://www.cs.cornell.edu › networks-book-ch02

Chapter 2 Graphs

PDF

by D Easley · Cited by 7242 — In this first part of the book **we** develop some of the basic ideas behind **graph theory**, the study of **network** structure. This **will** allow us to formulate basic ... Read more
24 pages

Orpheus Instituut
https://echo.orpheusinstituut.be › article › understandin...

Understanding complexity via network theory - ECHO

Jul 9, 2021 — **Network theory** provides tools which are particularly appropriate for assessing the complex interdependencies that characterise our modern ...

prosodylab
https://people.linguistics.mcgill.ca › rhymeGraphs

Applications of graph theory to an English rhyming corpus PDF

by M Sonderegger · 2011 · Cited by 40 — This paper explores the **connection** between pronunciation and **network** structure in sets of rhymes. **We** consider the rhyme **graphs** corresponding to rhyming…
24 pages

bioRxiv
https://www.biorxiv.org › content

Functional Connectivity Graph Theory Analysis of Spoken ...

Dec 5, 2025 — Purpose The purpose of this study was to determine **if** functional near-infrared spectroscopy (fNIRS), and **graph theory** analysis of functional ... Read more

People also search for

- Are **some languages** spoken **faster than others**
- **Syllable rate and information rate** in **selected languages**
- **All languages convey information at** a **similar rate**
- Language **speed vs information**
- **Speed** of **languages**
- **Most information dense** language
- Different **languages, similar encoding efficiency**
- **Languages by information rate**

Canada **H2V, Montreal, QC** - From your IP address - Update location

Help Send feedback Privacy Terms